

Amendments to the Claims:

The following listing of claims replaces and supercedes all prior versions and listings of claims in the application:

Listing of claims

1. (Cancelled)

2. (Previously Presented) The charge control circuit as claimed in claim 16, characterized in that the state monitoring means (11, 13, 17) of a parallel branch (3) are set to switch the controllable switch (15) to the interrupted state when it detects a battery state “parallel branch fully charged”.

3. (Currently Amended) The charge control circuit as claimed in claim 16, characterized in that the parallel branches (3) are formed from identical groups of series-connected battery elements (9) which are connected in series with the respective controlled switch (15).

Claims 4-8. (Cancelled)

9. (Previously Presented) The charge control circuit as claimed in claim 16, characterized in that the state monitoring means (11, 13, 17) comprise a safety timer (13), and in that the state monitoring means (11, 13, 17) switch the controllable switch of the respective parallel branch to the interrupted state when a charge time interval, which is determined by the timer (13) on the basis of the charge current flowing through the relevant parallel branch (3), has expired.

10. (Previously Presented) The charge control circuit as claimed in claim 16, characterized in that the state monitoring means (11, 13, 17) comprise a respective microprocessor (13) per parallel branch (3) for the purpose of controlling the respective switch (15).

11. (Cancelled)

12. (Previously Presented) The discharge control circuit as claimed in claim 17, characterized in that the controllable switches (15) are transistors, in particular field-effect transistors.

13. (Previously Presented) The discharge control circuit as claimed in claim 17, characterized in that the state monitoring means comprise at least one microprocessor (13, 19), preferably at least in each case one microprocessor (13) for each parallel branch (3).

14. (Currently Amended) A battery control circuit, comprising a ~~[[the]]~~ charge control circuit ~~as claimed in claim 16~~ for a battery pack comprising rechargeable battery elements (9) which are arranged in respective parallel branches (3) of a parallel circuit of battery voltage sources, the charge control circuit comprising state monitoring means (11, 13, 17) for monitoring the battery state of battery elements (9), and the charge control circuit comprising switches (15), which can be controlled by the state monitoring means, for interrupting the current flow or releasing the current flow,

wherein each parallel branch (3) has associated state monitoring means (11, 13, 17), and in that a respective switch (15) is provided in each parallel branch (3), it being possible for said respective switch (15) to be controlled on the basis of the battery state, which is monitored by the state monitoring means (11, 13, 17), of the relevant parallel branch (3), in order to selectively block or release only this relevant parallel branch (3) for the current flow;

the battery control circuit further comprising [[and]] a discharge control circuit combined therewith, wherein the discharge control circuit ~~comprising~~ comprises state monitoring means (11, 13, 17) and switches (15), which can be controlled by the state monitoring means, for interrupting the current flow or releasing the current flow, each parallel branch having, in series with the battery voltage source (3) comprising one or more battery elements (9) represented by it, a respective controllable switch (15) having an integrated diode (23), or one which is connected in parallel

therewith, which is conductive in the discharge current flow direction,

~~characterized in that~~ wherein the state monitoring means (13) are set so as to switch the respective controllable switch (15) from a high-resistance state to a low-resistance state when a discharge current having a minimum current level flows through the diode (23).

15. (Previously Presented) A battery pack having the charge control circuit as claimed in claim 16 integrated therein.

16. (Currently Amended) A charge control circuit for a battery pack comprising rechargeable battery elements (9) which are arranged in respective parallel branches (3) of a parallel circuit of battery voltage sources, the charge control circuit comprising state monitoring means (11, 13, 17) for monitoring the battery state of battery elements (9), and the charge control circuit comprising switches (15), which can be controlled by the state monitoring means, for interrupting the current flow or releasing the current flow,

characterized in that each parallel branch (3) has associated state monitoring means (11, 13, 17), and in that a respective switch (15) is provided in each parallel branch (3), it being possible for said respective switch (15) to be controlled on the basis of the battery state, which is monitored by the state monitoring means (11, 13, 17), of the relevant parallel branch (3), in order to selectively block or release only this relevant parallel branch (3) for the current flow and wherein the state monitoring means (11, 13, 17) comprise temperature sensors (11) for detecting the battery temperature in the individual parallel branches (3) and the state monitoring means (11, 13, 17) are set to switch the controllable switch (15) of the respective parallel branch (3) to the interrupted state when the change in the battery temperature per unit time exceeds a comparison value depending on the respective charge current through the parallel branch (3).

17. (Previously Presented) A discharge control circuit for a battery pack comprising rechargeable battery elements (9), which are arranged in respective parallel branches of a parallel circuit of battery voltage sources (3), the discharge control circuit comprising state monitoring means (11, 13, 17) and switches (15), which can be controlled by the state monitoring means, for

interrupting the current flow or releasing the current flow, each parallel branch having, in series with the battery voltage source (3) comprising one or more battery elements (9) represented by it, a respective controllable switch (15) having an integrated diode (23), or one which is connected in parallel therewith, which is conductive in the discharge current flow direction,

characterized in that the state monitoring means (13) are set so as to switch the controllable switch (15) of a respective parallel branch from a high-resistance state to a low-resistance state when a discharge current, having a minimum current level, flows through the diode (23) associated with said switch (15), such that only said respective parallel branch is selectively blocked or left open for the flow of charge.

18. (Previously Presented) A battery pack having the discharge control circuit as claimed in claim 17 integrated therein.

19. (Currently Amended) A battery pack having rechargeable battery elements (9) which are arranged in respective parallel branches (3) of a parallel circuit of battery voltage sources, the battery pack further having a [[the]] charge control circuit as ~~claimed in claim 16~~, integrated therein, the charge control circuit comprising state monitoring means (11, 13, 17) for monitoring the battery state of battery elements (9), the charge control circuit comprising switches (15), which can be controlled by the state monitoring means, for interrupting the current flow or releasing the current flow,

wherein each parallel branch (3) has associated state monitoring means (11, 13, 17) and a respective switch (15), such that it is possible for said respective switch (15) to be controlled on the basis of the battery state, which is monitored by the state monitoring means (11, 13, 17), of the relevant parallel branch (3), in order to selectively block or release only this relevant parallel branch (3) for the current flow;

the battery pack ~~[[and]]~~ also having integrated therein a discharge control circuit which comprises state monitoring means (11, 13, 17) and switches (15), which can be controlled by the state monitoring means, for interrupting the current flow or releasing the current flow, each parallel branch having, in series with the battery voltage source (3) comprising one or more battery elements

(9) represented by it, a respective controllable switch (15) having an integrated diode (23), or one which is connected in parallel therewith, which is conductive in the discharge current flow direction, characterized in that the state monitoring means (13) are set so as to switch the respective controllable switch (15) from a high-resistance state to a low-resistance state when a discharge current having a minimum current level flows through the diode (23).

20. (New) A charge control circuit for a battery pack comprising rechargeable battery elements (9) which are arranged in respective parallel branches (3) of a parallel circuit of battery voltage sources, the charge control circuit comprising state monitoring means (11, 13, 17) for monitoring the battery state of battery elements (9), and the charge control circuit comprising switches (15), which can be controlled by the state monitoring means, for interrupting the current flow or releasing the current flow,

characterized in that each parallel branch (3) has associated state monitoring means (11, 13, 17), and in that a respective switch (15) is provided in each parallel branch (3), it being possible for said respective switch (15) to be controlled on the basis of the battery state, which is monitored by the state monitoring means (11, 13, 17), of the relevant parallel branch (3), in order to selectively block or release only this relevant parallel branch (3) for the current flow and wherein the state monitoring means (11, 13, 17) comprise current measuring devices (13, 17) for detecting the current flowing through the individual parallel branch (3) and the state monitoring means (11, 13, 17) are set to switch the controllable switch (15) of the relevant parallel branch to the interrupted state when the charge current flowing through the parallel branch (3) exceeds a predetermined current value for the duration of a predetermined time interval.

21. (New) The charge control circuit as claimed in claim 20, characterized in that the state monitoring means (11, 13, 17) of a parallel branch (3) are set to switch the controllable switch (15) to the interrupted state when it detects a battery state "parallel branch fully charged".

22. (New) The charge control circuit as claimed in claim 20, characterized in that the parallel branches (3) are formed from identical groups of series-connected battery elements (9) which are connected in series with the respective controlled switch (15).

23. (New) The charge control circuit as claimed in claim 20, characterized in that the state monitoring means (11, 13, 17) comprise a safety timer (13), and in that the state monitoring means (11, 13, 17) switch the controllable switch of the respective parallel branch to the interrupted state when a charge time interval, which is determined by the timer (13) on the basis of the charge current flowing through the relevant parallel branch (3), has expired.

24. (New) The charge control circuit as claimed in claim 20,
characterized in that the state monitoring means (11, 13, 17) comprise a respective microprocessor (13) per parallel branch (3) for the purpose of controlling the respective switch (15).

25. (New) A battery pack having a charge control circuit as claimed in claim 20
integrated therein.